1600

Does Not Comply
Corrected Diskette Needed

```
            RAW SEQUENCE LISTING              DATE: 07/17/2002
            PATENT APPLICATION:  US/09/545,199F    TIME: 14:22:28

            Input Set : A:\6227NCP.txt
            Output Set: N:\CRF3\07172002\I545199F.raw
```

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  4 <110> APPLICANT: Lowery E., David
  5         Fuller E., Troy
  6         Kennedy J., Michael
  8 <120> TITLE OF INVENTION: Anti-Bacterial Vaccine Compositions
 10 <130> FILE REFERENCE: 28341/6227.NCP
 12 <140> CURRENT APPLICATION NUMBER: 09/545,199F
 13 <141> CURRENT FILING DATE: 2000-04-06
 15 <150> PRIOR APPLICATION NUMBER: 60/153,453
 16 <151> PRIOR FILING DATE: 1999-09-10
 18 <150> PRIOR APPLICATION NUMBER: 60/128,689
 19 <151> PRIOR FILING DATE: 1999-04-09
 21 <160> NUMBER OF SEQ ID NOS: 165
 23 <170> SOFTWARE: PatentIn Ver. 2.0
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ERRORED SEQUENCES

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1994 <210> SEQ ID NO: 16
1995 <211> LENGTH: 2110
1996 <212> TYPE: PRT
1997 <213> ORGANISM: Pasteurella multocida
1999 <400> SEQUENCE: 16
2000 Met Gln Pro Ala Gln Glu His Cys Gln Arg Ile Asn Asn Ile Val Asn
2001  1           5              10              15
2003 Gln Glu Asn Gly Leu Phe His Thr Leu Gly Asn Met Met Leu Glu Ala
2004         20              25              30
2006 Glu Arg Ser Val Tyr Asn Ile Gly Asp Ile Tyr Ala Ser Lys Lys Leu
2007         35              40              45
2009 Thr Val His Thr His Asn Leu Ile Asn Asp Val Arg Leu Ser Gly Asn
2010      50              55              60
2012 Val Ser Tyr Lys Pro Ile Gly Ser Ser Arg Asp Tyr Asp Ile Ser Arg
2013  65              70              75              80
2015 Val Ala Val His Gly Trp His Asn Asn Val Tyr Lys Leu Asn Leu Asn
2016              85              90              95
2018 Leu Gln Glu Gln Asp Lys Thr Asp Ile Lys Val Val Lys Met Gly Ala
2019         100             105             110
2021 Ile Arg Ser Asp Gly Asp Phe Asp Phe Lys Gly Ile Lys Ala Thr Ser
2022         115             120             125
2024 Ser Glu Ser Lys Pro Gln Leu Ile Asn His Gly Leu Ile Asn Val Lys
2025         130             135             140
2028 Gly Thr Phe Asn Ala Glu Ala Asp Gln Val Val Asn Gln Met Lys Ala
2029 145             150             155             160
2031 Phe Asn Gln Asn Ala Leu Ala Ser Val Phe Lys Asn Pro Ala Lys Ile
```

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Input Set : A:\6227NCP.txt
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```
2032                   165                   170                   175
2034 Thr Met Tyr Tyr Gln Pro Leu Thr Arg Tyr Ile Trp Thr Pro Leu Ser
2035              180                   185                   190
2037 Gly Asn Ala Ser Arg Glu Phe Asn Asn Leu Glu Ser Phe Leu Asp Ala
2038              195                   200                   205
2040 Leu Phe Gly Ser Thr Thr Ile Leu Lys Ser Ser Phe Tyr Ser Thr Glu
2041         210                   215                   220
2043 Asn Phe Ser Ala Tyr Gln Leu Leu Ser His Ile Gln His Ser Pro Met
2044 225                   230                   235                   240
2046 Tyr Gln Lys Ala Met Ala Gln Val Phe Gly Ala Glu Trp His Ser Lys
2047              245                   250                   255
2049 Ser Tyr Asp Glu Met Arg Asn Lys Trp Lys Ser Phe Lys Glu Asn Pro
2050              260                   265                   270
2052 Thr Asp Phe Ile Tyr Tyr Pro Ser Glu Lys Ala Lys Ile Leu Ala Gly
2053         275                   280                   285
2055 Lys Leu Glu Gly Lys Leu Thr Thr Leu Gln Asn Gly Glu Tyr Ala Glu
2056         290                   295                   300
2058 Arg Gly Lys Phe Asp Glu Ser Ile Gln Ile Gly Lys His Gln Leu Ser
2059 305                   310                   315                   320
2061 Leu Pro Ser Val Glu Leu Lys Ala Glu Phe Ser Asp Lys Glu Arg Leu
2062              325                   330                   335
2064 Glu Glu Asp Gly Val Asp Leu Ser Ser Ile Ala Glu Leu Leu Glu Met
2065              340                   345                   350
2067 Pro Asn Leu Phe Ile Asp Asn Ser Ile Gln Leu Glu Lys Lys Lys Leu
2068         355                   360                   365
2070 Ser Pro Ile Glu Asp Leu Asp Glu Glu Pro Arg Lys Asn Leu Asp Ile
2071         370                   375                   380
2073 Glu Glu Ser His Ser Asn Ser Ser Asp Asp Val Leu Ser Met Asn Asp
2074 385                   390                   395                   400
2076 Asp Glu Ser Asp Thr Asp Asp Ser Lys Trp Ser Met Gly Asn Asp Glu
2077              405                   410                   415
2079 Lys Glu Met Pro Asp Asp Lys Leu Gly Ile Ser Arg Asp Asp Arg Gly
2080              420                   425                   430
2082 Asn Lys Pro Pro Arg Thr Asp Pro Thr Val Asp Tyr Leu Asn Pro Asp
2083         435                   440                   445
2085 Glu Phe Phe Glu Asn Gly Tyr Leu Leu Asn Glu Leu Leu Gln Glu Leu
2086         450                   455                   460
2089 Gly Glu Glu Pro Leu Leu Lys Glu Gly Glu Asp His Phe Lys Arg Ser
2090 465                   470                   475                   480
2092 Thr Asn Leu Val Arg Leu Gly Glu Arg Asp Arg Gln Asn Arg Glu Lys
2093              485                   490                   495
2095 Arg Glu Lys Glu Gly Tyr Phe Asp Leu Pro Gly Thr Leu Asp Met Lys
2096              500                   505                   510
2098 Leu Gln Glu Leu Phe Glu Lys Arg Lys Gln Lys His Glu Ala Glu Gln
2099         515                   520                   525
2101 Lys Ala Arg Ile Glu Lys Ala Leu Leu Gln Lys Ser Glu Gln Gln Glu
2102         530                   535                   540
2104 Lys Arg Val Glu Glu Arg Lys Gln Glu Glu Lys Arg Gln Ala Gln Asp
2105 545                   550                   555                   560
```

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```
2107 Lys Ile Ala Lys Gln Val Glu Ile Ala Lys Glu Met Gln Arg Val Glu
2108             565             570             575
2110 Glu Ile Arg Gln Arg Glu Lys Gln Leu Ala Ile Gln Leu Gln Glu Glu
2111             580             585             590
2113 Glu Lys Lys Gln Gln Glu Glu Lys His Leu Ser Glu Glu Lys Lys Gln
2114             595             600             605
2116 Ala Glu Gln Lys Gln Lys Ala Glu Glu Lys Val Ala Gln Glu Arg Leu
2117      610             615             620
2119 Asp Ile Glu Gln Gln Lys Ala Tyr Glu Glu Met Ala Lys Arg Glu Ala
2120 625             630             635             640
2122 Glu Ala Ser Lys Asn Val Leu Leu Lys Ala Ile Asp Glu Glu Arg Pro
2123             645             650             655
2125 Lys Val Glu Thr Asp Pro Leu Phe Arg Thr Lys Leu Lys Tyr Ile Asn
2126             660             665             670
2128 Gln Asp Asp Tyr Ala Gly Ala Asn Tyr Phe Phe Asn Lys Val Gly Leu
2129             675             680             685
2131 Asn Thr Lys Gly His Gln Lys Val Asn Val Leu Gly Asp Asn Tyr Phe
2132      690             695             700
2134 Asp His Gln Val Ile Thr Arg Ser Ile Glu Lys Lys Val Asp Asn His
2135 705             710             715             720
2137 Leu Asn Gln Lys Tyr Asn Leu Ser Asp Val Glu Leu Val Lys Gln Leu
2138             725             730             735
2140 Met Asp Asn Ser Thr Thr Gln Ala Gln Glu Leu Asp Leu Lys Leu Gly
2141             740             745             750
2143 Ala Ala Leu Thr Lys Glu Gln Gln Ala Asn Leu Thr Gln Asp Ile Val
2144             755             760             765
2146 Trp Tyr Val Lys Thr Lys Val Lys Gly Lys Asp Val Phe Val Pro Lys
2147      770             775             780
2150 Val Tyr Phe Ala Ser Glu Thr Leu Val Glu Ala Gln Lys Leu Gln Gly
2151 785             790             795             800
2153 Leu Gly Thr Gly Thr Ile Arg Val Gly Glu Ala Lys Ile Lys Ala Lys
2154             805             810             815
2156 Asp Val Val Asn Thr Gly Thr Leu Ala Gly Arg Lys Leu Asn Val Glu
2157             820             825             830
2159 Ala Ser Asn Lys Ile Lys Asn Gln Gly Ser Ile Leu Ser Thr Gln Glu
2160             835             840             845
2162 Thr Arg Leu Val Gly Arg Lys Gly Ile Glu Asn Val Ser Arg Ser Phe
2163      850             855             860
2165 Ala Asn Asp Glu Leu Gly Val Thr Ala Gln Arg Ser Glu Ile Lys Thr
2166 865             870             875             880
2168 Glu Gly His Leu His Leu Glu Thr Asp Lys Asp Ser Thr Ile Asp Val
2169             885             890             895
2171 Gln Ala Ser Asp Ile Lys Ala Lys Thr Ser Phe Val Lys Thr Gly Asp
2172             900             905             910
2174 Val Asn Leu Lys Asn Thr Tyr Asn Thr Lys His Ala Tyr Arg Glu Lys
2175             915             920             925
2177 Phe Ser Pro Ser Ala Leu Gln Val Ala Glu Leu Asp Val Ala Gly Leu
2178             930             935             940
2180 Lys Val Pro Leu Leu Gly Val Ser Ser Pro Ser Ser Tyr Ser Glu His
```

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PATENT APPLICATION: US/09/545,199F   TIME: 14:22:29

Input Set : **A:\6227NCP.txt**
Output Set: **N:\CRF3\07172002\I545199F.raw**

```
2181 945                950                955                960
2183 Thr Ser Glu Ala Thr Ser Glu Gly Ser Ile Phe Glu Val Gly His Leu
2184                965                970                975
2186 His Leu Ala Val Asp Arg Asp Val Asn Gln Ala Gly Ser Lys Ile Lys
2187                980                985                990
2189 Ala Lys Tyr Thr Thr Gly Val Val Lys Gly Asn Phe Asn Thr Glu Ala
2190           995                1000                1005
2192 Gly Lys Asn Ile Lys His Val Glu Lys Glu Glu Tyr Ser Ser Gln Leu
2193      1010                1015                1020
2195 Phe Ala Ser Ala His Ala Ser Gly Gly Gly Thr Ser Val Arg Tyr Asp
2196 1025                1030                1035                1040
2198 Tyr Asn Ser Gln Asp Gly Gly Asn Ala Ser Val Gly Val Pro Thr Asn
2199                1045                1050                1055
2201 His Thr Gly Val Gly Ala Glu Ala Gly Met Ser Phe Thr His Thr Lys
2202                1060                1065                1070
2204 Asp Lys Glu Thr Leu Leu Thr His Thr Asn Ser Glu Leu Gln Val Lys
2205           1075                1080                1085
2207 His Gly Lys Leu His Val Leu Gly Tyr Ala Asp Ile Gly Gly Val Asp
2208      1090                1095                1100
2211 Ile Asn Thr Lys Leu Pro Glu Asp Ala Gln Ser Lys Ala Gln Lys Glu
2212 1105                1110                1115                1120
2214 Ile Ala Ala Ser Lys Pro Glu Lys Thr Glu Gln Ser Ala Gln Asp Val
2215                1125                1130                1135
2217 Ala Gln Ala Gln Ser Asn Ala Asn Lys Asp Lys Glu Asn Lys Ala Pro
2218                1140                1145                1150
2220 Glu Ile Lys Glu Leu Ser Glu Ala Glu Ile Ala Asp Leu Met Ser Glu
2221           1155                1160                1165
2223 Lys Ser Lys Ala Tyr Phe Asp Asp Phe Ala Glu Gln Ala Lys Lys Ala
2224      1170                1175                1180
2226 Pro Glu Asn Asn Arg Phe Glu Leu Ser Ala Lys Glu Ile Lys Ser Ser
2227 1185                1190                1195                1200
2229 Lys Gln Lys Asp Gln Tyr Asp His Glu Ser Glu Arg Thr Thr Phe Lys
2230                1205                1210                1215
2233 Val Gly Pro Glu Ala Glu Ala His Ser Ala Val Ala Asp Met Val Ser
2234                1220                1225                1230
2236 His Leu Val Lys Glu Tyr Arg Asp Ala Gln Asn Gly Thr Lys Gln Asp
2237           1235                1240                1245
2239 Gly Thr Val Ala Leu Gln His Ala Ser Asp Val Leu Asn Ile Val Thr
2240      1250                1255                1260
2242 Gly Asp Leu Ala Gly Ser Ser Ala Lys Leu Ser Val Glu Arg Thr His
2243 1265                1270                1275                1280
2245 Glu Thr Lys Arg Thr Thr Glu Thr Gly Asp Ile Val Thr Lys Ile Gly
2246                1285                1290                1295
2248 Gly Asn Val Thr Leu Ser Ala Arg Ser Gly Ser Val Asn Leu Lys Asn
2249                1300                1305                1310
2251 Val Gln Ser Asp Glu Gln Ala Asn Leu Thr Leu Arg Ala Lys Glu Asp
2252           1315                1320                1325
2254 Val Asn Val Leu Ser Gly Glu Lys Thr Arg Glu Thr Thr Glu Thr Val
2255      1330                1335                1340
```

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Input Set : A:\6227NCP.txt
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```
       2257 Ser Arg Gln Lys Leu Ser His Gly Val Asn Ala Gly Cys Ser Met Met
       2258 1345              1350              1355                  1360
       2260 Ser Gly Ala Cys Thr Ala Gly Val Ser Thr Ser Leu Glu Gly Asn Glu
       2261              1365              1370              1375
       2263 Ser Tyr Thr Ser Glu Arg Glu Thr Ala Gln Asn Asn Ser Phe Leu Lys
       2264          1380              1385              1390
       2266 Ala Arg Asn Met Lys Val Glu Ala Gly Arg Asp Phe Asn Val Val Ser
       2267          1395              1400              1405
       2269 Ser Asn Ile Asp Ala Asp Lys Leu Asp Leu His Val Lys Gly Lys Thr
E--> 2270      1410              1415              1420
       2272 Asn Val Val Ser Lys Gln Asp Thr Leu Gln Lys Val Thr His Gly Val
E--> 2273 1425              1430              1435              1440
       2275 Asp Tyr Asn Leu Ser Ala Gly Val Ala Leu Ser Ser Ala Thr Ile Ala
E--> 2276              1445              1450              1455
       2278 Thr Pro Thr Gly Asn Val Gly Phe Gly Tyr Thr Asn Glu Thr Glu Ser
E--> 2279              1460              1465              1470
       2281 Lys Arg Thr Val Asn Gln Gln Ala Gly Ile Lys Ala Asn Lys Ile Thr
E--> 2282          1475              1480              1485
       2284 Gly Gln Thr His Asp Leu Asn Leu Glu Gly Gly Tyr Leu Val Ser Asn
E--> 2285          1490              1495              1500
       2287 Asp Lys Asp Asn Gln Leu Lys Val Thr Gly Asp Val Thr Thr Lys Ala
E--> 2288 1505              1510              1515              1520
       2290 Leu His Asp Gln His Asp Lys Asp Gly Gly Thr Phe Gly Leu Ser Val
E--> 2291              1525              1530              1535
       2293 Gly Ile Ser Glu Arg Gly Thr Thr Ala Phe Asn Val Arg Gly Gly Arg
E--> 2294              1540              1545              1550
       2296 Ala Glu Gln Lys His Tyr Asn Ala Thr Gln Lys Ser Thr Leu Ser Gly
E--> 2297          1555              1560              1565
       2299 Val Asp Thr Ser Gln Ala Asn Val Ser Gly Gln Val Asn Thr Asp Leu
E--> 2300      1570              1575              1580
       2302 Thr Lys Ala Lys Ala Val Thr Arg Asp Asp Thr Tyr Ala Ser Thr Gln
E--> 2303 1585              1590              1595              1600
       2305 Phe Ser Phe Glu Val Ala Asp Ile Val Glu Leu Gly Gln Arg Ala Lys
E--> 2306              1605              1610              1615
       2308 Asn Lys Leu Ser Ala Pro Asn Asn Asp Thr Asp Met Ala Ser Gly Ser
E--> 2309              1620              1625              1630
       2311 Thr Leu Arg Ser Arg Ser Thr Thr Glu Glu Ala Asp Val Pro Thr Thr
E--> 2312          1635              1640              1645
       2314 Arg Ser Arg Val Thr Asp Glu Ala Asp Ser Val Ser Val Lys Asn Pro
E--> 2315      1650              1655              1660
       2317 Ile Tyr Glu Ser Ala Asp Ala Val Val Pro Thr Pro Arg Ser Arg Asn
E--> 2318 1665              1670              1675              1680
       2320 Val Asp Ser Thr Asp Leu Val Asp Asn Pro Leu Tyr Ala Ser Ala Thr
E--> 2321              1685              1690              1695
       2323 Thr Lys Ala Asn Ile His Asp Tyr Glu Glu Ile Pro Ala Val Tyr Ser
E--> 2324          1700              1705              1710
       2326 Lys Val Gly Asp Asn Asn Ala Asp Leu Val Arg His Lys Thr Ala Thr
E--> 2327          1715              1720              1725
       2329 Ser Asp Glu His Leu Tyr Ala Glu Ile Asn Glu Pro Thr Tyr Ser Arg
```

amino numbering misaligned

- move to the left one space, so that the last digit aligns with the right margin (last letter of amino acid)

RAW SEQUENCE LISTING   DATE: 07/17/2002
PATENT APPLICATION: US/09/545,199F   TIME: 14:22:29

Input Set : A:\6227NCP.txt
Output Set: N:\CRF3\07172002\I545199F.raw

```
E--> 2330      1730              1735              1740
     2333 Val Gly Asp Lys Asn Ala Asp Met Arg Arg His Asn Ala Ala Gly Thr
E--> 2334 1745              1750              1755            ←1760
     2336 Thr Asp Tyr Ala Asp Val Val Gln Ala His Thr Arg Lys Ala Asp Asp
E--> 2337              1765              1770              1775
     2339 Pro Leu Pro Ala Leu Pro Asn Gln Gly Lys Ala Arg Thr Val Asn Asp
E--> 2340          1780              1785              1790
     2342 Gly Ser Glu His Ile Tyr Thr Asp Ile Ser Asp Val Gly Thr Gln Thr
E--> 2343          1795              1800              1805
     2345 Lys Ala Ile Asp Ser Thr Tyr Ala Thr Val Gly Met Pro Lys Ala Asn
E--> 2346      1810              1815                  1820
     2348 Ala Val Asn Leu Ile Gly Gln Asn Gly Leu Gly Ser Ile Tyr His Ser
E--> 2349 1825              1830              1835            ←1840
     2351 Pro Asp Ser Ala Tyr Lys Thr Trp Gln Leu Leu Asp Gln Phe Ala Asn
E--> 2352              1845              1850              1855
     2354 Lys Gly Gly Asp Ala Val Phe Leu Arg Pro Ala Thr Glu Met Lys Cys
E--> 2355          1860              1865              1870
     2358 Ala Gly Ala Pro Leu Lys Tyr Thr Phe Ile Val Arg Asp Tyr Leu Leu
E--> 2359          1875              1880              1885
     2361 Arg Arg His Thr Leu Asp Lys Ser Arg Leu Phe Tyr Asn Ala His Asn
E--> 2362      1890              1895              1900
     2364 Lys Thr Leu Phe Ser Val Pro Ile Val Asp Ala Lys Val Lys Met Leu
E--> 2365 1905              1910              1915            ←1920
     2367 Phe Ala Glu Lys Asn Ile Gln Val Asn Tyr Asp Arg Ser Leu Thr Ala
E--> 2368              1925              1930              1935
     2370 Ile Asp Leu Ser Lys Arg Ile Ala Thr Phe Asn Ser Pro Glu Gly Val
E--> 2371          1940              1945              1950
     2373 Val Glu Val Pro Tyr Asp Phe Ile Asn Val Val Pro Pro Met Arg Ala
E--> 2374          1955              1960              1965
     2376 Pro Asp Ala Val Arg Gln Ser Ala Leu Ala Trp Gln Glu Gly Lys Trp
E--> 2377      1970              1975              1980
     2379 Ala Asn Asp Gly Trp Val Glu Val Glu Lys His Thr Leu Arg His Arg
E--> 2380 1985              1990              1995            ←2000
     2382 Arg Tyr Ala Asn Val Phe Ala Val Gly Asp Val Ala Gly Val Pro Lys
E--> 2383              2005              2010              2015
     2385 Gly Lys Thr Ala Ala Ser Val Lys Trp Gln Val Pro Val Ala Val Ala
E--> 2386          2020              2025              2030
     2388 His Leu Leu Ala Glu Leu Glu Gly Lys Pro Cys Asp Glu Ile Tyr Asn
E--> 2389          2035              2040              2045
     2391 Gly Tyr Thr Ser Cys Pro Leu Ile Thr Gln Leu Gly Lys Gly Met Leu
E--> 2392      2050              2055              2060
     2394 Val Glu Phe Asp Tyr Asn Asn His Leu Thr Pro Ser Phe Pro Gly Val
E--> 2395 2065              2070              2075            ←2080
     2397 Ile Ala Pro Leu Glu Glu Leu Trp Ala Thr Trp Ala Ile Lys Thr Leu
E--> 2398              2085              2090              2095
     2400 Gly Leu Lys Pro Thr Tyr Leu Gly Met Leu Arg Gly Leu Ala
E--> 2401          2100              2105              2110
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VERIFICATION SUMMARY   DATE: 07/17/2002
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Input Set : A:\6227NCP.txt
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L:129 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:1061
L:2270 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:16
M:332 Repeated in SeqNo=16
L:3841 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:337
L:3842 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:385
L:3845 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:385
L:3846 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:433
L:3849 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:433
L:3850 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:481
L:3981 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28 after pos.:112
L:3984 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28 after pos.:128
L:3987 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28 after pos.:144
L:5416 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:975
L:5417 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:1023
L:5428 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:1119
L:5429 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:1167
L:5444 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:1390
L:5452 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:1630
L:5526 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:208
L:5529 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:224
L:5535 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:256
L:5538 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:272
L:5612 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37 after pos.:97
L:5613 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37 after pos.:145
L:5628 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37 after pos.:289
L:5629 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37 after pos.:337
L:5661 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37 after pos.:889
L:5663 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37 after pos.:949
L:5689 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37 after pos.:1729
L:5691 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37 after pos.:1789
L:5728 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:38 after pos.:32
L:5740 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:38 after pos.:96
L:5858 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:1806
L:6790 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:47 after pos.:3076
L:9359 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:72 after pos.:420
L:11243 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:90 after pos.:0
L:11245 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:90 after pos.:60
L:11978 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:102 after pos.:4848
L:11979 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:102 after pos.:4896
L:12306 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:103 after pos.:1616